Zwitterionic Imides

Abstract

Zwitterionic imide compounds are provided according to the formula: R_1-SO_2-N^--SO_2-R_2^+, where R_1 and R_2^+ are any suitable groups. Typically R_1 is a highly fluorinated alkane and R_2^+ contains a quaternary ammonium group or a heteroatomic aromatic group having an cationic nitrogen, such as: pyridiniumyl, pyridaziniumyl, pyrimidiniumyl, pyraziniumyl, imidazoliumyl, pyrazoliumyl, thiazoliumyl, oxazoliumyl, or triazoliumyl. Zwitterionic liquids are provided, typically having melting points of less than 100 °C and typically having a solubility in water of less than 5% by weight.